

## **DETAILED DESCRIPTION OF MOUNTING BRACKET & TWIST PIN**

**The twist pin is a hitch pin with a tension pin (11) about half way to retain the return spring (13). The tension pin protrudes from the hitch pin on both sides to retain the return spring and to hold the twist pin on the tension pin rest (14) in the disengaged position (10). The twist pin in it's engaged position (1) slides through the center of the spring housing (7) and the mounting bracket (2) to be received by the side plate of the brush guard (4) , as shown in Figure 4. The aforementioned side plate (4) is one continuous piece forming the side of the brush guard with a hole to receive the twist pin. The side plate rises up in front of the truck grille (3) and protrudes back towards the front wheels of truck to be received by the snow plow bracket (6) to take up movement in brush guard (15) when the guard is on the truck, as shown in Figure 2 .**

**A second box is created when the spring housing (7) is attached to the mounting bracket (2). The spring housing (7) houses the return spring (13) and tension pin (11). The tension pin allows the return spring to be compressed , as shown in Figure 3.**

Inside the spring housing (7) there are two tabs creating the tension pin rest (14). This rest allows the twist pin (8) to stay open or disengaged (10) to allow the brush guard to be removed or mounted by keeping the twist pin out of the way. The process to disengage the twist pin (8) is as follows, pull and twist the pin  $\frac{1}{4}$  turn, pull the pin past the tension pin rest and turn back  $\frac{1}{4}$  turn while resting the tension pin (11) on the tension pin rest (14). This holds the twist pin (8) in the disengaged position (10) and out of the way ,as shown in Figure 3.

The brush guard mounting bracket (2) consists of one piece of (C) channel with a 1" hole (16) to receive a twist pin welded to a side plate (4). An end piece is welded to one end of (C) channel creating a five sided box. The open end receives the truck side push plate. Welded to the side of mounting bracket is another five sided piece of metal with a hole to receive the twist pin and retain the return spring. This spring housing (7) has two metal tabs opposite of each other creating the tension pin rest (14). The tension pin rest is utilized to hold the twist pin in a disengaged position (10) by resting the tension pin on top of these tabs while compressing the return spring , as shown in Figure3 .

To move the tension pin past the tension pin rest, the twist pin must be turned  $\frac{1}{4}$  turn in either direction pulled past tension pin rest

while compressing the return spring. When this action has been achieved, the twist pin can be turned back  $\frac{1}{4}$  turn in the opposite direction of the first action and the tension pin will rest on the tension pin rest , as shown in Figure 3.

To engage the twist pin, pull back on the twist pin, turn  $\frac{1}{4}$  turn either direction and release the twist pin. The Twist pin with the tension on the return spring will return to the engaged position, going completely through the spring housing, snow plow push plate, mounting bracket, and to be received by the hole in the brush guard side plate , as shown in Figure 4 .

## **BRIEF DESCRIPTION OF THE DRAWINGS**

**FIGURE 1. Is two front views of the brush guard , one engaged one disengaged.**

**FIGURE 2. Is the Side view of the brush guard and the truck side snow plow push plates.**

**FIGURE 3. Is the blow up of the Twist pin and the bracket system in the disengaged position.**

**FIGURE 4 . Is the blow up of the Twist pin and the bracket system in the engaged position.**